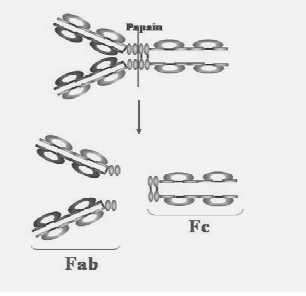
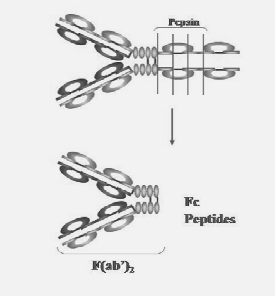


## ♥ Enzymatic Digestion Products of Immunoglobulins

Effect of papain	Effect of pepsin
 <p>The diagram illustrates the effect of papain on an antibody. An antibody molecule, represented as a Y-shape, is shown being cleaved by papain. The resulting fragments are labeled: Fab (the two outer arms) and Fc (the central stem).</p>	 <p>The diagram illustrates the effect of pepsin on an antibody. An antibody molecule is shown being cleaved by pepsin. The resulting fragments are labeled: N(ab')<sub>2</sub> (the two outer arms) and Fc (the central stem).</p>

## ♥ Classes of immunoglobulins (types of antibodies)

	Ig G	Ig M	Ig A	Ig D	Ig E
Structure	<ul style="list-style-type: none"> <li>- Monomer</li> <li>- 4 subclasses (G1, G2, G3, G4)</li> </ul>	<ul style="list-style-type: none"> <li>- Pentamer (the most efficient).</li> <li>- J chain</li> <li>- Extra domain on heavy chain</li> </ul>	<ul style="list-style-type: none"> <li>- Monomer in serum</li> <li>- Dimer in secretions</li> <li>- J chain</li> <li>- Secretory piece (T. piece)</li> <li>- 2 subclasses (A1 &amp; A2)</li> </ul>	<ul style="list-style-type: none"> <li>- Monomer</li> <li>- Tail piece</li> </ul>	<ul style="list-style-type: none"> <li>- Monomer</li> <li>- Extra domain on heavy chain.</li> </ul>
Properties	1. The major Ig in serum & in extra vascular spaces.	1. The 3 <sup>rd</sup> Ig in serum.	1. The 2 <sup>nd</sup> Ig in serum.	1. The 4 <sup>th</sup> in serum	1. The least Ig in the body (<.01%).
	2. The only antibody that pass through <u>placenta</u> .	2. The <u>1<sup>st</sup> Ig made by the fetus itself and by B. cells</u>	2. Present in all <u>body fluids</u> eg saliva, milk & mucus (mucosal immunity).	2. B cell surface Ig	2. <u>Resp. for killing parasites (helminthes)</u>
	3. <u>The dominant Ig in 2ry immune response or chronic infection.</u>	3. <u>The dominant Ig in 1ry immune response or acute infection.</u>			3. <u>Responsible for allergy.</u>
	4. Opsonin (attach to phagocytic cell).	4. The agglutinating Ig and acts as B cell surface Ig.			
	5. Fixes the complement.	5. Fixes the complement.	3. Doesn't fix the complement.	3. Doesn't fix the complement.	4. Doesn't fix the complement.
	6. Bind to F.C receptors on phagocytes & NK	6. Bind to F.C receptors on phagocytes & NK	4. Bind to F.C receptors on phagocytes & NK	4. Bind to F.C receptors.	5. Bind to F.C receptors.